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DR. S. CONANT FOSTER'S

ANNIVERSARY ORATION.

1862.

THE PHYSICIAN'S KNOWLEDGE.

AN

ORATION

DELIVERED BEFORE THE

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BY

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ANNIVERSARY ORATION.

Mr. President, and Fellows of the New York Academy of Medicine:

When four years since, you first appointed me to deliver the usual address before the Academy at its then approaching anniversary, if I hesitated to accept the honor, it was because I felt that such an occasion demanded the exercise of talents which I was not confident of possessing,—demanded a discourse worthy to represent the learned body for whom I was to speak; worthy of the sublime position to which the Profession of Medicine has in modern years attained; worthy, finally, of the enlightened spirit of that public who would be among the listeners. But while I was hesitating, a severe illness fell upon me and left me no option but to decline. Again, and with each succeeding year to the present, by your kind partiality, has this office, which many might covet, but which I approach with apprehension, been proffered to me. You have listened to my excuses and pardoned my omissions. It would be ungracious in the extreme did I longer hesitate to offer you such poor entertainment as I can afford. I am here, therefore, to address you to-night with

what courage I may. With more courage than judgment, perhaps you will think, when I announce the subject I have chosen. Topics appropriate for such an occasion and such a mixed audience as this are not numerous. Most of them, like the one I have selected, have been often handled before by abler pens than mine. You will not expect, therefore, much of instruction or amusement from me this evening. But there may be some among those who hear me, to whom the theme I have chosen may be presented in an aspect not familiar. From them I ask attention, assuring them that the subject is one upon which it would be easier to write a volume than to discourse an hour. From the rest I ask simply patience. My theme is—The Physician's Knowledge.

"Knowledge is power," said a wise man long ago. The remark has been attributed, I know not how correctly, to one of England's greatest sages. We have quoted it so often that it has become almost proverbial, and carries with it the force of an axiom. To repeat it now is to say something trite and stale, and no one stops to make an analysis of it, such as must have passed through the mind of him who originally uttered it Yet it may not be found unprofitable if we pause a moment to analyse this familiar saying, which is a great truth. I shall venture to do so therefore, and to ask your attention while I make a particular application of it.

What is knowledge? It is clearly not a result of

any exercise of the imagination, but stands almost in contra-distinction to that. Nor is it alone what our senses and perceptive faculties teach us, for their teachings, if unscanned with a critical eye, are liable to lead us astray, and require to be constantly compared one with another, and corrected by the light of surrounding phenomena. Theories and inferences from theories do not constitute knowledge, for the first are continually changing and conflicting, and the last live or die with the others. Neither of these alone, then, constitutes the knowledge which is power, though they are among the sources of knowledge and the processes by which it is reached.

True knowledge is something certain, positive, unchangeable. It is the same yesterday, to-day, and for ever. It is the fixed record of all past experience. It is the unfailing interpreter of all present phenomena. It is the reliable prophet and monitor of the time to come. We should make no unapt definition of it if we should say that knowledge is that which, applied to the past, interprets the present, and reveals the future.

Knowledge is both general and special. A man of general knowledge is one who is well informed upon many topics. He knows concerning most things whatever is generally known. His circle of vision is wide. It is not necessarily minute. But the breadth of his view is such that his opinions always have weight. He is seldom in error in his statements. People repose a confidence in his judgment, and he thus acquires in a greater or less degree a

controlling influence over others. It is the natural authority which belongs to intellectual eminence. His general knowledge has given him a general power.

The man of special knowledge, on the other hand, is one who, in regard to a particular matter, knows *more* than is generally known. By means of his special knowledge he is enabled to accomplish what no one without it could possibly do. We find illustrations of this all around us, in our daily life. Take for example the seaman, whose knowledge of things upon the sea enables him to guide his ship safely through the storm; or the artisan, whose knowledge gives him the power to fashion objects of beauty or utility; or the agriculturist, whose knowledge enables him to make a garden of a desert. Each of these is a man of special knowledge, and his special knowledge has given him a special power.

But I would observe that the action of the different forms of special knowledge is more directly upon material objects, while general knowledge acts mainly upon the mind, whether of the possessor or others. The latter is, in fact, the proper preparation for the exercise of the former. A certain amount of general culture is necessary to enable one to understand and apply even the axioms which lie at the base of all special knowledge; and in proportion as this latter is abstruse and difficult of acquisition will be the amount of the general knowledge required of the learner.

Let us now inquire what is the nature of the physician's knowledge, and endeavor to discern the elements of that power of which he claims possession.

I shall not, of course, contend that *all* of his knowledge is of the positive and absolute sort to which I have alluded, but I think it can be shown that much more of it than is generally imagined is of this description. And here, perhaps, better than elsewhere, I may yield to the temptation I feel to sketch the portrait of the ideal Physician, so far at least as relates to his intellectual part.

Gifted by nature, favored by fortune in the circumstances by which he is surrounded, carefully nurtured in early life, having in adolescence sedulously developed his every faculty, habituated to careful study, trained to test everything by a rigorous logic, to doubt everything that has not stood the test of investigation and experiment, he brings to his professional studies a mind capable of appreciating the extent of the immense area which his life is to be spent in exploring. Familiarity with many tongues has put into his hands the keys to the storehouses of ancient and modern wisdom. He is thus able to compare the results of his own observation with the teachings of the sages of all countries and generations. While with telescopic eye he surveys the vast expanse of science, the minutest object shall not escape his notice, which bears upon the subject that occupies his thoughts. His varied acquirements stamp him as a man of general as well as special knowledge, and he has need of both, for his power extends over a realm which includes within its boundaries things organic and inorganic, things relating to body and mind, moral and intellectual as well as physical phenomena. For

he is to exert a controlling influence over the operations of nature, to correct her deviations, to guide her forces, subject only to those physical laws which the Almighty has ordained, laws with which arduous labor and protracted research have made him familiar. It is his function especially to guard against infraction those subtle laws of life and health to which his fellow creatures are subject, and to repair the consequences of such violation. In this he is the appointed administrator of the ordinances of the Creator! Well, therefore, did the nations of antiquity class their learned Physicians among the Demigods.

Without dwelling longer upon this picture of the ideal Physician, let us turn aside for a moment and compare his pursuits with those of the other so called learned professions. By some of its votaries the law has been termed a science, though with how much propriety it is difficult to see. More fitly, I think, has it been said by one of the most distinguished of that profession, that legal knowledge consists in an extensive acquaintance with precedents, from which a few fixed principles have been deduced. The primary object of human law is the administration of justice between man and man. A noble object truly, and a most worthy pursuit, and in proportion as it approximates to the great principles of eternal justice, a thing to command admiration. But practically, how many principles are yet fixed? There is a certain ebb and flow even in judicial decisions. What seems justice in one age is manifestly not justice in another. The administration of human laws must ever vary

with the changes in human society. To a certain extent the popular thought of the hour rules the courts. And I am prone to think that it is well within certain limits that it should be so. But however this may be, it must, I think, be admitted that the sphere of legal knowledge is comparatively a narrow one. So the inevitable tendency of the practice of the law (of course I do not say the inevitable result) is to contract the mind, to keep the thoughts within fixed boundaries, and make them run in the same channels and ruts for ever.

Theology has a larger sphere, doubtless, but it is in a realm of mists and shadows. Having first to do with the nature of spiritual existences, it invites the mind to indulge in the broadest, not to say the wildest speculations. It is ever striving to bring the infinite within the grasp of the finite. Noble effort, with ever unattained result! Its theme, indeed, is always great; its objects, to supply the need of man's immortal part, glorious and sublime. But its positive knowledge is limited to what is revealed, and its chief study must always be to interpret the revelation. Hence, in its application to man's actual condition, the effects it produces are as variable as the mental and spiritual conditions of those whom it would instruct, and the function of the clergyman often resolves itself into a mere matter of personal influence upon his hearers, which is greater or less according as he possesses qualities which harmonize or not with theirs.

But Medicine takes its origin from known and

demonstrated laws; laws which regulate the material universe; which govern life, animal and vegetable, act upon matter, organic and inorganic, laws which are eternal and immutable. These positive laws are incessantly leading to positive results, and so far as the laws are known the results may with certainty be predicted. It is the object of medical science to discover and apply more and more of these laws. Each succeeding year witnesses new conquests in the realm of science, while each new conquest but opens the way for that which is to follow, and forms the incentive to fresh exertion. For these are the victories of peace—these are conquests which are not to be surrendered for ever. The facts and laws of science, once established, remain unshaken by whatever intellectual convulsions.

Ascertained scientific truths, especially if of a nature to be applied to purposes of immediate utility, soon pass into the general fund of popular knowledge, and are universally received and acted on. Medicine forms no exception to this rule, which applies to all the sciences. A great effort has been made of late years to popularize scientific knowledge, and with a wonderful amount of success. Physicians have not been behind, but have rather taken the lead of others in proclaiming and inculcating the truths which their professional labors have taught them. If there ever was a time when it was thought necessary to invest with a certain mystery the doings of the Doctor, that day is long gone by. If ever practised now, it is by those of the meaner sort, whose tendencies are

towards quackery and imposture, to which such proceedings are nearly allied. Information is often necessarily withheld, it is true, because patients and their friends are unable to comprehend it, but there are few physicians at the present day who would be unwilling to explain to patient or friends (unless restrained by fear of the effect upon the sick) anything in a case which could be fully understood by the listener.

Let me, in illustration of this, relate an anecdote. A patient once said to his physician: "Doctor, I wish you would explain to me what ails me. I want to know the nature of my disease. Doctors never give a man any satisfaction. Ask them what is the matter and they give you a technical name, and then write you a Latin prescription. Now, I like to understand something about my complaints, and if I have to take medicine, to know what I am taking, and in what way it is expected to do me good." The reply was: "Your thirst for knowledge is very natural and very laudable, and the only reason why I do not impart to you the information you seek is, that I should first have to teach you a little Anatomy, that you might know the situation of the organs affected in your case and the tissues of which they are composed; next, a little Physiology, that you might know the proper functions of these organs in health and their relations with other organs; third, a little Pathology, that you might appreciate the changes which have taken and are taking place under the influence of disease, and the symptoms to which these changes

give rise; fourthly, it would be important that you should have a little insight into the Materia Medica and Therapeutics, that you might know something of the nature and properties of the medicinal agents to be employed and the reasons for selecting this one or that; fifthly, some Chemical knowledge would be essential to enable you to comprehend the nature and uses of the different ingredients of the prescription, and the manner of their combined action. Could I convey to you all this knowledge, one thing more would still be lacking, namely, good health, both of body and mind, that no morbid cause might exist to bias your judgment; in which case, though you might be in a fair way of learning how to prescribe for others, it is obvious that you would require no treatment yourself!"

I repeat, then, the difficulty lies not in the unwillingness of the Physician to impart, but in the inability of the patient to receive the information. But this difficulty is one which is diminishing daily. Now, whoever has ears may hear, whoever has understanding, may comprehend the great foundation-truths of Medical Science. Anatomy and Physiology are taught in the schools; the art of preserving health is preached in the camp and in the streets. Papers on medical topics of high scientific value are finding a place in the Reviews and Magazines. Treatises upon such subjects as Digestion, the Adulteration of Food, Animal Chemistry, occupy more or less space even in the daily journals. One collection of very interesting papers upon the "Physiology of Common

Life" has acquired a very wide popular circulation. Even an article upon the metamorphosis of animal tissues, affording a glimpse into the very arcana of Medical Science, has recently appeared in a popular periodical.

To appreciate how widely spread of late have been correct notions of Therapeutics, it is only necessary to contrast the manner in which an ordinary case of disease, as fever, for example, would be treated now if the patient were so situated as to be unable to procure medical attendance, with the same case even so late as thirty years ago. It is really astonishing to observe the rapidity with which knowledge of this sort is often diffused. It almost gives the lie to the old adage, respecting the comparative march of truth and falsehood. The fact is, let a truth of medical science once become firmly established, especially if it be of a practical sort, and the public mind seizes it with avidity. It is a matter of personal interest to every one, and in many cases a thing which every man may verify by his own experience. Thus (to cite only the most familiar instances) a knowledge of the anæsthetic properties of ether and chloroform, so recently discovered, has long since penetrated to the remotest corners of the civilized globe, while the use of quinine as an antidote to the effects of marsh miasmata is nearly as well understood in malarial regions by the people as by the profession. The popular mind is continually accumulating such knowledge as this, and generally without recognising the source whence it comes.

One of the principal difficulties in enlightening the public mind in regard to medical matters consists in the popular impression, which has descended from the ages of comparative ignorance, that the Physician's knowledge consists chiefly in an acquaintance with a few specifics. That it differs merely in degree, but not in kind, from the knowledge which every old woman possesses, (and it is to be hoped most young women also), that aniseed or peppermint will relieve the colicky pains of infancy; that hot drinks and a footbath will often cure a cold; and that pinkroot is an excellent vermifuge. The Doctor is supposed, even by many of the more enlightened, to be cognizant of a few more such facts as these than the old woman, and this is considered to be at least the main element in his skill. Hence the man of ready memory, who can shoot out, with the rapidity of a revolving rifle, a succession of small shots directed at trivial ailments, generally acquires with ease the popular favor, and is regarded as a man of profound lore and varied acquirements, while the man of true science often passes unheeded and ignored. So it becomes the interest, as it always is the duty and the pleasure of the man of solid scientific attainments, to lend his aid on every proper occasion in enlightening the public mind as to the true sources of his knowledge; to teach the world that medical science is not merely an accumulation of accidental observations, nor even of the results of random experiments, though both observation and experiment are links in the chain. As in all other sciences so in this, the

first element is an observed fact, the next a hypothesis as to its cause, then careful and repeated experiment, from which there springs a consistent theory, to be verified by further experiment and observation, and the final result is the knowledge of a law. This law, once determined, may prove, like some of the fixed stars, a central point around which revolves an entire new system of satellite-facts, only awaiting improved instruments to be brought within the range of our vision. This sort of information we cannot of course expect to convey to the public mind all at once. Indeed it is precisely the sort of knowledge which is acquired the slowest by the masses. The moment one begins to talk of hypothesis and theory, even at the present day, most people are alarmed; and in common language we are accustomed to contrast the theoretical and the practical, the man of theory and the man of action, as if they were antagonistic to each other. But the complete man combines both of these conditions.

Perhaps I shall be told here, that the theorist is notoriously and emphatically a man of errors. I am not disposed to dispute the assertion, if applied to the *mere* theorist, but it is eminently untrue of him who builds his theories upon careful observation, in the manner I have indicated. But it is not every one who can theorize well, for to do so one must also be a good observer, and this, as well remarked by a very able writer, is a rare talent. "The observer," says John Stuart Mill, "is not he who sees the thing which is before his eyes, but he who sees of what

parts that thing is composed. One person, from inattention, or attending only in the wrong place, overlooks half of what he sees; another sets down much more than he sees, confounding it with what he imagines or infers. Another takes note of the *kind* of all the circumstances, but being inexpert in estimating their *degree*, leaves the quantity of each vague and uncertain. Another sees indeed the whole, but makes such an awkward division of it into parts, throwing things into one mass which ought to be separated, and separating others which might more conveniently be considered as one, that the result is much the same, sometimes even worse, than if no analysis had been attempted at all."*

With the best observation, however, it is not always possible to avoid error. Infallibility is an attribute only of the infinite intelligence. But let no one lay too much stress upon this, for these very errors of theorists have often pointed out the way, aye, and opened the gates of the temple of truth. For the attempt to act upon a theoretical error has frequently enabled us to discern at the same moment both the true and the false light. Thus error has become most instructive; and no knowledge is more certain than that which springs from the recognition of error.

Moreover, one may have a perfectly or partially correct theory, without the means of proving it to be so. And no one can foresee the possible results of a well formed theory. When Archimedes and Apollonius of old pondered their theories of Conic

*J. S. Mill, Logic, Chap. 7.

Sections, they little thought of what was to result from them in these remote centuries. But these theories led to important changes in astronomical science, and then to great improvements in the art of navigation, so that now, to use the language of Condorcet, "the mariner, whom an exact observation of longitude preserves from shipwreck, owes his life to a theory conceived two thousand years ago, by men of genius who had merely in view simple geometrical speculations."

I look upon the enlightenment of the people in regard to medical matters with great confidence and hope. True, there will always be fools enough in the world, who will reject any good thing that is offered them. Not merely the grossly ignorant, who, when you would feed them upon ortolans, and spread their table with the choicest results of Parisian cookery, will turn aside, and resort in preference to their accustomed flatulent diet of beans! Not merely these, but others, better educated, whose unwisdom springs from the very constitution of their natures,—with whom an incapacity for appreciating truth appears to be an essential element of their being, and whose existence would seem to be permitted by Providence that they may serve as foils and contrasts to such as hunger and thirst after the bread and wine of intellectual life; or perhaps it may be to check the growth of pride in the heart of the successful seeker after knowledge. The priests who strove to stifle the utterance and crush the spirit of Galileo are types of this class, and these are they who when you

have offered them the very pearls and jewels of science, have trampled them under their feet and turned again to rend you. There is no arguing with these people. We can only regard them with a contemptuous pity.

But as the public mind becomes more enlightened on medical topics, the number and influence of both these classes will continually diminish. Indeed I think that an effect of this improved and improving condition is already perceptible in the rank which the medical profession now holds in all civilized communities. Its *status* is one not only positively but relatively better now than in former times. This is seen in the position assigned to the scientific physician in the current literature of the day. Formerly, when he was introduced as a character in the drama, or in any work of fiction, it was almost uniformly as an object of ridicule. No distinction was recognised between the man of science and the charlatan. Now, on the contrary, the scientific physician is almost always represented in the popular novel, and on the stage, in his true character; in such a way, in short, as to inspire respect. He is the esteemed counsellor upon whose word depend the movements and whose action decides the conduct of the rest. Upon his skill hang the issues of life and death. He is made, if not the hero of the piece, at least the arbiter of its events. And the novelist or dramatist who should now evince an ignorance of some of the great principles of medical science, which have become a part of the general fund of popular knowledge, would render himself

and his work the objects of the ridicule and satire, which formerly represented the public opinion when directed against the medical profession.

I would urge then the further prosecution of this great work of educating the people in regard to medical matters. If there be any who fear that this course may tend to circumscribe the sphere of the profession and diminish the necessity for its existence, and who think that the profession will die like the fabled bird of the wilderness, committing a voluntary suicide by teaching its offspring to suck its parents' blood,—if there be any such, to them I would say (waiving the contempt I should feel for the narrowness of their views), be not alarmed. The profession will always be a long way in advance of the public in scientific attainments. But if not, let it perish. It would die nobly, all its duty done, all its work accomplished.

To others again who, quoting the oft repeated verse, would say:—

"A little learning is a dangerous thing,"

I answer, the remedy is easy; give the people *much* learning, and risk the madness which was supposed to have afflicted the Apostle. Moreover, the adage does not apply to the masses, even if it ever is true in individual cases. No. Let the people receive as much as you can impart of the Physician's knowledge. Some portion of it will be digested. Let it learn what it can of Anatomy and Physiology and Chemistry, and

even Pathology. Let it see the analysis of the tissues and the secretions. While the telescope is planted upon the public walk for all who wish to gaze upon the heavenly orbs, let the microscope be equally familiar within doors, in the parlor and the school-room as well as in the laboratory. While man learns about the satellites of Jupiter and the rings of Saturn, let him also be taught the chemistry of the milk which nourishes his infancy, and the composition of the tissues which constitute his life. Let him understand the function of nutrition and the elements of decay. While he learns of the logician and the metaphysician concerning the mind and the will, be it yours to teach him also something of the material organs which convey ideas to the mind and obey the orders of the will. This is the sort of knowledge which is power.

In order to add my mite to the mass of this knowledge which is now getting diffused so rapidly, I desire here to direct attention to the ordinary daily acts of the practising physician, in the hope that some may thus be led to estimate more justly than is generally done, the nature of his work and the advantage which the patient receives from him. I ask your patience therefore while I attempt to analyse the unwritten record of that commonest of occurrences in every one's experience, the visit of the physician to his patient. What is it that a physician does when he visits a sick man? Let the case be, if you please, one of the more familiar forms of disease. He drives to the house. He enters the sick chamber. He seats

himself at the bedside. He examines the pulse and the tongue. He listens to the story of the patient and his friends. He writes a prescription, gives a few simple directions as to diet, &c., and he takes his leave. What is there very wonderful in all that? The whole affair has occupied him perhaps five or ten minutes. It is a very simple matter. You can see through it perfectly, you think. The patient might have done just as well, you dare say, if he had not sent for the Doctor. But he was a little nervous, and it was a comfort to him, though really of very little moment. Had it been the plumber or the gas-fitter whose services were required, then indeed you might have seen the advantage. A leak in your Croton water-pipes or among your gas-fixtures is not a thing to be neglected. (There is no *vis medicatrix naturæ* to remedy that!) And here the leak would have been stopped and the furniture saved, and you would have seen it done, and understood how it was done, and known how well. But really these directions of the Doctor are mere common sense directions. It is just what any one would have done of his own accord. It was hardly worth while to have sent for him. What, after all, has the Doctor done?

I address myself not merely to the unlettered but to the unthinking public, and I reply: Remember first, that in sending for him you have made full confession of your ignorance and of your need. Consider too, that he has qualified himself to minister to your necessity, by the severest discipline not only of his intellect, but of his feelings and emotions.

Other men of science may indulge their passions to what extent they please. It will not necessarily interfere with their pursuits. But his must be held sternly under control. "To the true Physician," says one of the profoundest readers of the human heart, "there is an inexpressible sanctity in the sick chamber. At its threshold the more human feelings quit their hold upon his heart. Love, there, would be profanation. Even the grief permitted to others he must put aside. He must enter that room—a Calm Intelligence. He is disabled for his mission if he suffer aught to obscure the keen quiet glance of his science. Age or youth, beauty or deformity, innocence or guilt, merge their distinctions in one common attribute—human suffering appealing to human skill."

He has entered. He knows not what he is to encounter. His first glance, perhaps, has told him whether the case is one of a severe or a trivial nature. He has marked the attitude of the patient, whether in the erect or recumbent posture. He has noted the expression of his countenance, the tint of his skin, the lustre or lack-lustre of his eye, the frown upon his brow or the smile upon his lip. For there is a physiognomy of disease, whose traits the skilful physician recognises and distinguishes as he would the features of a familiar acquaintance. Then he hears the history of the attack, and traces it perhaps to some remote and unsuspected cause. And now there is spread out before his mental vision the whole map of that wonderful and complicated organism, whose anatomy alone the united labors of centuries

have only yet imperfectly explored. Each in turn of the important organs or systems of organs passes rapidly in review before him, like regiments on parade, that he may judge of their strength or weakness, the efficiency or inefficiency with which they perform the functions he knows to be assigned to them in health. A glance at the tongue exhibits to him the extent to which the organs of digestion are involved in the general disturbance, and even whether it is the stomach, or the liver, or the intestine which is suffering most. His hand upon the wrist and cheek speaks to him of fever or chill. His sensitive finger upon the pulse tells him in a moment of the condition of the heart and arteries; while the frequent or infrequent, the slow or the quick, the double or the single beat, informs him not only concerning the motions of the vital fluid, but often points unerringly to the organ and even the tissue most affected, and betrays to him the extent to which the powers of life have become impaired. Does a cough direct his attention to the chest? His discriminating ear, hearkening to the murmurs of the breathing and the resonance of the voice, enables him to decide upon the severity or mildness, the manner and extent to which the important organs of respiration are involved. In the same moment the throb of the heart adds its testimony to the already accumulated evidence, which speaks to him of speedy restoration or of certain death.

By these and other means which it would be tedious to particularize, but will readily suggest themselves

to any one who will give the subject a little thought, and which pass through the physician's mind with the rapidity of lightning, having satisfied himself as to the nature, extent, seat and danger of the patient's malady, he next addresses himself to the remedial course to be pursued. And here the first question which he has to decide is, can the case be safely left to nature? For it may be truly asserted that there is no disease to which the human frame is subject, which nature does not make the attempt to remedy; and it is the glory of modern science that she has learned to distinguish in so many instances the processes which nature sets up for the cure of disease, and which in the days of comparative ignorance were often mistaken for the disease itself. If nature always succeeded in her attempt, as she frequently does, and accomplished the cure by the speediest and easiest mode, then indeed the Physician's art would be superfluous; but though nature's process is always set up, it needs in many instances to be aided and stimulated or restrained and arrested. Having then decided that this is necessary, the Physician must now seek for a remedy adapted to the case in hand. He must select the most appropriate from among the million of medicaments, derived from every kingdom in nature, which offer themselves to his choice. And here the vast range of collateral knowledge which is essential to the exercise of the healing art is brought at once into view. He has thus far been guided by his knowledge of Anatomy, and Physiology, and Pathology. His acquaintance with Botany and Mineralogy and

Chemistry is now to be brought into play. The prescription which he writes comprises, perhaps, ingredients drawn from the animal, the vegetable, and the mineral kingdoms. They are to be so combined as in their action to aid and not to counteract each other; and so also, in view of the changes they are to undergo after they are taken into the body, as to produce none but safe and agreeable and beneficent results. Moreover, the quantities, and the times, and the methods of administration have now all to be indicated with minutest accuracy. Directions as to diet and regimen, exercise and rest, will follow. Nor must those circumstances which operate upon the mind, and through the mind upon the body, be neglected or ignored. Here, then, the physician brings to bear such moral agencies as may be required, and without which, as his psychological studies have taught him, all other remedies may fail.

All this, and much more which it would weary your attention to elucidate, is the knowledge which the physician brings into play in his ordinary daily visit to each of his patients. All this is what he *must* know. All this knowledge he exercises, if he is a true man, under a solemn sense of responsibility to his conscience and his God.

Am I not right then in claiming for this noble profession of ours the pre-eminence over all others in the vastness of the knowledge which it requires for its practical exercise; in the immense scope of mind and great variety of acquirements which it demands of those who would engage in it with success; in the

early intellectual culture and careful training which they must have who would attain to its highest positions?

But *non contigit cuivis adire Corinthum.* As in every other calling, there will be few who attain to the highest honors. In proportion, too, as the demand of intellectual gifts and attainments is great, will be the number of those who fall short of the requirements. But I feel justified in claiming for the aggregate of the medical profession an amount of knowledge both general and special, which is not to be excelled, if equalled, by that of any similar body of men. And let me add what I believe to be true that, in the practical ability to treat disease, the average skill of American physicians is at least on a par with that of the profession in any other country. If the American physician sometimes lacks the systematic preparatory culture which those in European countries more generally receive, he makes up for it in a measure by a certain natural sagacity, and aptitude for seizing and applying the results of the labors of others. He partakes of course in the general intelligence of the masses of the population, and it is seldom that an opportunity of acquiring knowledge of any sort is lost upon him. Hence the variety of information called for, as I have shown, in the study and practice of medicine, instead of appalling, allures him; and he applies to it that fertility of invention which is so eminently a national characteristic.

What may we not hope for in a country like ours? The memory of a single man may take in the entire

period of our national existence. Eighty years have sufficed, but they have been years of freedom, to place America in the van among the nations of the earth. She has in store a future, more glorious than her glorious past; and when she shall have wholly shaken off her pupilage to the nations of the old world, and trampled out upon the battle-field every conspiracy that would destroy her union, and every institution which stands in the way of her progress, she shall rise from the struggle with strength increased and constitution renovated, to prove to the world that not only material wealth but the arts, and arms, and science also, shall flourish best in the land where every man is free, and civilization keeps pace with Liberty!

Brethren! I have attempted, to-night, in an imperfect manner, to analyse the knowledge which constitutes your distinction and your glory. I have spoken to you of what you know, and traced out some of the sources of the power which your knowledge confers. It has not entered into my plan to speak of the moral qualities of the physician, but I cannot forbear to allude to the influence which his pursuits must exercise upon his character. In all scientific studies, the object to be attained is the discovery and elucidation of truth. Can he whose whole life is spent in the search fail to be a lover of truth? The practical object of medical science is to relieve the sufferings of humanity. Can he whose life is devoted to the task fail to have his human sympathies and

affections quickened and strengthened by it? The lives of his fellow-creatures depend upon the conscientious performance of his duty. Can the conscience which is so incessantly called into exercise fail to govern him in all his dealings? No! Whatever exceptions may exist, the tendency of the physician's pursuits must be to make him truthful, conscientious, and humane. Moreover, the physician is usually contented with his lot. He does not court the applause of the mob, nor seek to be elevated to the high places of power. There is a delight in the possession of his knowledge which alone repays him for the labor expended in its acquisition. If his pecuniary remuneration is inadequate, there is a satisfaction in relieving the sufferings of his fellow-beings which atones in a measure for the narrowness of his circumstances, and far exceeds the pleasure to be derived from the sordid pursuit of wealth.

Shall I then appeal to the public, as some have done, to support and countenance this noble profession of ours? Shall I go about begging for recognition and appreciation, and like poor blind Belisarius of old, with extended hand, among those who owed him their safety and their lives, ask for an *obolus?* Far be it from me. Far be it from us all. He who would thus bow low, and supplicate the popular favor for the profession, speaks not by the authority of the profession, and is not to be regarded as its representative. Enough for us is the part we have performed and are performing. Let us go on then, silently and laboriously enlarging the domain of

positive knowledge. Let us patiently go on, ever adding new stones to that glorious temple of science, whose foundations were laid at the creation of the world, and whose proportions shall extend to the infinitude of space.

"See where aloft its hoary forehead rears,
The towering pride of twice a thousand years!
Far, far below the vast incumbent pile,
Sleeps the gray rock from art's Ægean isle;
Its massive courses, circling as they rise,
Swell from the wave to mingle with the skies;
There every quarry lends its marble spoil,
And clustering ages blend their common toil;
The Greek, the Roman, reared its ancient walls,
The silent Arab arched its mystic halls;
In yon fair niche by countless billows laved,
Trace the deep lines that Sydenham engraved;
On yon broad front that breasts the changing swell,
Mark where the ponderous sledge of Hunter fell;
By that square buttress look where Louis stands,
The stone yet warm from his uplifted hands;
And say, O Science, shall thy lifeblood freeze
When fluttering folly flaps on walls like these?"*

* O. W. Holmes.